

# Autism

## **Definition:**

- *A neurological disorder that affects the functioning of the brain in areas of social interaction, communication and sensory processing*
- *Not an emotional disorder or a behavioral disorder*

## **FACTS:**

- Appears in first three years of life
- 4 times more common in boys
- Spectrum
- Occurs in 1 of every 500 individuals
- Can occur with other disabilities
- Knows no racial, ethnic or social boundaries
- Not affected by income, lifestyle, family educational levels
- Families with one child with autism are at greater risk of having another child with the same or similar disorder (1 in 20)

## **NOT FACTS:**

- **NOT** a mental illness
- **NOT** usually accompanied by severe mental retardation
- **NOT** unruly kids who choose not to behave
- **NOT** caused by poor parenting or a failure to bond
- **NOT** always nonverbal
- **NOT** always void of eye contact
- **NOT** always avoid affection
- **NOT** always self-injurious

## **CHARACTERISTICS:**

- **Cognitive**
  - o Process better when information is spatial and concrete (don't do well with transient, auditory information)
  - o Gestalt processors; can't analyze well
  - o Need sameness for predictability
  - o May be disrupted by changes in environment or routine

- o Tend to learn rigid rules
- o Splintered, unusual development
- o Need a longer period of time to process information
- **Speech/Language**
  - o Language development is opposite of what usually happens (expressive exceeds receptive)
  - o May not use natural gestures to communicate
  - o Usually poor in talking about things outside the immediate situation
  - o Very literal in interpretation of language
  - o Tend to become dependent on verbal prompts
  - o Speech may sound stiff or "robot like"
- **Social**
  - o Eye gaze and use of eye contact may be different
  - o Difficulty with turn-taking and interaction
  - o Difficulty making friends
  - o Difficulty reading the mood or feelings of others
  - o Difficulty initiating interaction
- **Sensory**
  - o May show stereotypic behaviors or rituals
  - o May collect curious items
  - o May show obsessive or compulsive behaviors
  - o May show intense preference in clothing, foods, sounds, etc.
  - o Hypersensitivity to touch, sounds, visual stimuli or smells
  - o May use senses in an unusual manner (may smell, lick or touch objects or people inappropriately)
  - o May engage in unusual body postures or movement patterns, particularly when upset or under stress

**TYPES:**

- **Regressive Type**
  - o Show "typical" development until approximately 18 months and then show regression or loss of skills
- **Kanners Type**
  - o Report development to be different from birth

## **HOW DIAGNOSED:**

- Usually diagnosed by an interdisciplinary team (physician, speech-language pathologist, psychologist); different members for different systems
- Based on observation of behavior and parental interview regarding history (e.g., Childhood Autism Rating Scale [CARS])
- No medical tests available to confirm

## **CAUSES:**

- No single cause
- A number genes, probably in complicated combination
- Physical differences in parts of the brain (cerebellum, hippocampus, amygdala)
- Neurons appear smaller with stunted nerve fibers
- Abnormalities of serotonin or other neurotransmitters
- Suggests disruption of brain development early in fetal development

## **IMPACT:**

Because of the pervasive nature of autism spectrum disorders, the impact is seen in all areas of the individual's life--home, school, work, play. It is important to note, however, that with appropriate intervention, individuals with autism can be highly successful contributing members of society with independent, gainful employment and meaningful relationships.

- o Temple Grandin
- o Thomas McKean
- o Donna Williams

## **INTERVENTIONS:**

- Assist families with young children to connect to services as soon as possible (particularly important are speech-language and occupational therapies)
- Help create structured, yet flexible environments (they need predictability but not rigidity)
- Implement the "sensory diet" designed for the individual

- Utilize the individual's augmentative/alternative communication system
- Make sure the environments are rich with visual cues (schedules, task analysis, cues, labels, emotions, etc.)
- Create opportunities for social interaction

# Asperger's Disorder

## **Definition:**

- *A neurological disorder that affects the functioning of the brain in areas of social interaction, pragmatic communication and sensory processing*
- *Not an emotional disorder or a behavioral disorder*

## **FACTS:**

- Diagnosed much later in life, sometimes in adulthood
- More common in boys
- Can occur with other disabilities
- Knows no racial, ethnic or social boundaries
- Not affected by income, lifestyle, family educational levels
- Increased frequency among family members who have the disorder
- No significant delay in cognitive development
- No significant general delay in language; very verbal
- Can be a very subtle disorder
- Frequent "obsessions/phobias"
- Frequently misdiagnosed with behavioral or psychiatric labels

## **NOT FACTS:**

- **NOT** a mental illness
- **NOT** accompanied by mental retardation
- **NOT** unruly kids who choose not to behave
- **NOT** caused by poor parenting or a failure to bond

## **CHARACTERISTICS:**

- **Cognitive**
  - o Visual learners, usually not good with auditory processing
  - o Gestalt processors
  - o Need predictability
  - o Sometimes disrupted by changes
  - o Live by rules, sometimes misunderstood ones

- **Speech/Language**
  - o Very verbal
  - o Language is sometimes the source of difficulty (appear argumentative or combative)
  - o Literal in interpretation
  - o Engage in language rituals (scripts)
  
- **Social**
  - o Difficulty making friends
  - o Unable to “read” social cues
  - o Interaction may be either too little or too much
  - o May seem to get “stuck” on a topic or interaction
  - o May interact but show a qualitative difference in that interaction
  
- **Sensory**
  - o May show stereotypic behaviors
  - o May show obsessive or compulsive patterns
  - o May demonstrate phobias
  - o May show intense preferences in clothing, food, sounds, etc.
  - o May be hypersensitive to stimuli
  - o May show unusual postures or movements (sometimes very subtle)

**HOW DIAGNOSED:**

- May be noted much later in life because of subtle nature
- Misdiagnosis is common
- Based on behavior rating scales and reported history
- No medical tests available

**CAUSES:**

- No single cause
- A number of genes, probably in complicated combination
- Physical differences in parts of the brain (cerebellum, hippocampus, amygdala)
- Neurons appear smaller with stunted nerve fibers
- Abnormalities of serotonin or other neurotransmitters
- Suggests disruption of brain development early in fetal development

## **IMPACT:**

Since the intensity of the impact is different with Asperger's, the impact is seen differently in the areas of the individual's life. People with Asperger's typically do well in school, making average or above average grades. They have an easier time with communication, while still needing some of the visual adaptations. Employability is improved because of communication skills and academic performance. The most significant impact is the social area because of the difficulty in forming lasting relationships and feeling connected.

Another area of impact is on self-esteem. Since individuals with Asperger's are so often misunderstood and misjudged with regard to their intent, the impact on their self-esteem and mental health can be significant.

## **INTERVENTIONS:**

- Assist families with young children to connect to services as soon as possible (particularly important are speech-language and occupational therapies)
- Help create structured, yet flexible environments (they need predictability but not rigidity)
- Implement the "sensory diet" designed for the individual
- Utilize the individual's augmentative/alternative communication system
- Make sure the environments are rich with visual cues (schedules, task analyses, cues, labels, emotions, etc.)
- Create opportunities for social interaction
- Remember the individual thinks in pictures (think about the picture that might be created in his/her mind from the words you say)
- Make sure language is clear to an individual who processes very concretely (watch out for sarcasm, idioms, jokes, absurdities, etc.)
- Prepare the individual for changes **before** they occur using visual cues
- Give the individual more time for processing
- If the person becomes upset, give him or her more time and space (and **DO NOT TALK OR TOUCH**)
- Utilize sensory strategies for calming (remove triggers, deep pressure)
- Assist in connecting the individual with a peer support group or mental health services if needed

## VISUAL SCHEDULING

### Purpose:

Visual scheduling presents the abstract concept of time in a concrete and manageable form. This ability to predict time brings order and security to a person, allowing him/her to spend time learning rather than being frightened or worried. The student's level of understanding will dictate what type of visual representation will be used in the schedule.

Choose the type of symbol by experimenting to see what symbols the student can match. Always try to use the most adult-like type of symbol the student is able to match and remember to continue to instruct through more advanced symbol matching through the child's school career. If the student doesn't yet understand symbolic representation, begin with concrete objects and teach the associations through pairing the object with the symbol.

### Steps:

- 1** Get a symbol for each current activity in the student's day. Arrange them in order. Initially it is essential to include everything the student does, e.g., bathroom, snack, reinforcers, group time, therapies, recess, lunch, etc. Once using the schedule becomes part of the routine, the student will be able to group individual activities into larger chunks; thus, ultimately requiring fewer symbols.
- 2** Depending on the functioning level of the student, give him/her the whole day's schedule or a part-day's schedule. Do not present only one item at a time. Place the schedule on the wall near the student's workstation. Many adults carry calendars, class schedules or other visual schedules. Your student will eventually wish to carry his/her schedule with him/her.

3

Instruct in the use of the schedule. Teach the process of attending to the schedule. Always direct the student to his/her schedule immediately upon his/her entry into the classroom each day. The teacher should consistently look at and point to the schedule, using key phrases such as “check your schedule” instead of verbally cueing the next activity.

4

Teach acceptance of changes in routine by altering the schedule periodically. The student will notice the change and may become upset or attempt to return the schedule to the old routine. Allow his/her expressions of anxiety while pointing to the schedule and referring to previously accepted activities. While pointing to the schedule, say, “Yes, something has changed, but your regular activity is next.” If the student perseverates on the schedule change, simply cue him/her to check his/her schedule.

5

Begin to insert new functions/meaningful tasks into the schedule.

6

**Do not** discontinue use of the schedule because the student has memorized it.

## TIPS WHEN USING VISUAL SCHEDULES

- Use whatever visual image seems effective (objects, photographs, icons)
- Always accompany the visual image with the written word(s)
- Use reversed images (black or dark background with white numbered boxes to show order); if using icons, color the background rather than the image
- Display the schedule in a neutral zone, which can become an intermediary stop between activities to assist with transition
- Color-coding, according to Mayer-Johnson recommendations, assists with scanning and syntax:
  - o people - yellow
  - o action verbs - green
  - o descriptive - blue
  - o nouns - orange
  - o miscellaneous - white
  - o social - pink
- Turn each symbol over or use a “finished” pocket as each activity is completed to reflect the passage of time
- Use a consistent verbal cue such as “what’s next?” or “check your schedule”
- Watch for signals of attention to the image on the cards
- If one or two cards appear not to work, change them
- DO NOT discontinue use
  - ... when the individual memorizes the schedule
  - ... if the individual attempts to rearrange the order
  - ... if the individual attempts to choose only one or two activities from the schedule
- Add mechanisms to teach delay of gratification if necessary

## VISUAL TASK ANALYSIS

### **Purpose:**

A visual task analysis provides concrete representation of the steps required to accomplish a particular task. The individual's level of understanding will dictate the amount of detail utilized in the task analysis. Steps can be broken down into infinite detail or collapsed into clusters.

### **Tips:**

- Display the task analysis at the appropriate area for completion of the task (i.e., tooth brushing in the bathroom)
- Consider making the final step in the sequence something that represents the end ("finished" or "completed")
- If needed, the sequence can include a positive reinforcer after completion of the activity
- May be helpful to display the sequence in an upright plane rather than flat on a table
- Introduce the sequence in one setting at a time to avoid confusion

## CHOICE CARDS

### Purpose:

Choice cards are used to provide visual representation of desired objects, activities, persons, etc. to enable the individual more control over his/her environment. Application of these cards should be introduced using items of highest motivation and then gradually expanded to facilitate expressive language development.

### Steps:

- 1 Select items/activities of highest interest or motivation to the individual. (What would he or she spend time doing if given free access to anything?)
- 2 Determine the appropriate visual representation (object, photograph, symbols, etc.)
- 3 Display the visual cue in the area closest to where the item is stored or where the activity takes place.
- 4 Insert use of the visual cue into the natural routine established by the individual; for example, as he/she takes you to the cabinet where the snacks are, point to the icon and say, "I want a cookie."
- 5 Gradually increase the individual's participation in the use of the visual cue and in the complexity of the choices communicated.

## **TIPS WHEN USING CHOICE CARDS**

- Be certain to begin with items of interest to the individual (not of interest to staff, such as “bathroom” and “eat”)
  
- Insert the use of the cards into an established routine
  
- Avoid using the cards for artificial practice activities
  
- Interpret established communication routines utilizing the cards before requiring their use by the individual
  
- Avoid attempting to insert the use of cards in routines where the individual’s message is already universally understood (such as to replace a headshake/nod for “yes” and “no”)

## EMOTION CARDS

### Purpose:

Emotion cards are utilized across a variety of settings to develop recognition, comprehension and expression of emotional descriptors such as “happy,” “sad,” “angry,” “frustrated,” etc. In many situations the individual’s ability to readily express these feeling states will dramatically reduce inappropriate behaviors that communicate frustration.

### Steps:

- A** Develop a set of icons to represent “happy,” “sad,” “angry,” “afraid,” “hurt,” “confused,” “frustrated,” “bored,” “sick” (headache, stomach ache), “tired,” “not ready,” “leave me alone,” etc.
- B** Adults (and peers) in the environment should use these cards to label their personal emotional states and those of others as they naturally occur
- C** Adults should interpret the emotions of the individual with autism and use the cards to label them as they naturally occur
- D** Support the individual with autism to use the cards expressively
- E** Gradually fade the prompt so that the individual is spontaneously using the cards to express feelings

## TIPS WHEN USING EMOTION CARDS

- Exaggerate your facial expression as you begin the instruction
- Encourage any attempt by the individual to imitate the expression (such imitation provides additional proprioceptive cues which facilitate comprehension and retrieval)
- Do NOT become alarmed if inappropriate affect (such as laughing or smiling when someone is “sad” or “hurt”) occurs during the initial stages of instruction
- As you begin to interpret the individual’s emotions, utilize consistent terms across settings (“mad/angry,” “sad/upset”)
- Be certain to validate and respect the individual’s initial attempts to express feelings (“I am not ready” should be reinforced with more time)
- Provide concrete cues to assist with discrimination of similar expressions (“happy” - mouth smiling; “sad” - tears)

**ACCESS CODE** for test: **Path2016**

**Additional Information Sources**

- Autism Society of America (ASA)  
www.autism-society.org  
1-800-3autism
- Autism National Committee  
www.autcom.org  
1-800-378-0386
- National Institutes of Health  
www.nih.gov  
1-301-496-4000
- Arkansas Autism Society  
www.arautism.org  
501-682-9930  
1-800-831-4827
- *The Out-of-Sync Child* by Carol Kranowitz, (ISBN: 0-399-52386-3, The Berkeley Publishing Group, Special Markets, 200 Madison Ave., New York NY 10015 or Sportime Abilitations Item #1-25193-394, \$13.95)
- *Thinking in Pictures* by Temple Grandin (ISBN: 0-385-47792-9, available through Future Horizons, www.futurehorizons-autism.com)
- *Autism: Handle with Care* by Gail Gillingham, (ISBN: 1-885477-14-7, Future Horizons, www.futurehorizons-autism.com, \$26.00)

**Included Resource Material**

- *Autism Fact Sheet* - National Institute of Neurological Disorders and Stroke (7 Pages)

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